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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/712,451      | 11/12/2003  | Dale Wolin           | 10012464-4          | 9435             |

7590 03/17/2005

HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P. O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER

LUK, LAWRENCE W

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2187

DATE MAILED: 03/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                               |                              |  |
|------------------------------|-------------------------------|------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/712,451 | Applicant(s)<br>WOLIN ET AL. |  |
|                              | Examiner<br>Lawrence W Luk    | Art Unit<br>2187             |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2004.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5, 6, 8-11, 14, 15, 17-20, 22, 23, 25-28, 30, 31, 33 and 39-43 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 9-11, 14, 15, 17, 26-28, 30, 31, 33, 40, 41 and 43 is/are allowed.  
6) ☒ Claim(s) 1-3, 5, 8, 18-20, 22, 23, 25, 39 and 42 is/are rejected.  
7) ☒ Claim(s) 6 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5, 8, 18-20, 22, 23, 25, 39 and 42 are rejected under 35

U.S.C. 102(b) as being anticipated by Sakakibara (6,433,517).

#### **Claims 1 and 18**

As to claims 1 and 18, Sakakibara disclose to figure 4, an apparatus for charging a battery comprising a charging circuit (30) for providing a charging current to the battery (B); a temperature sensor (56) positioned to sense a temperature of said battery (B); and a controller (36) coupled to said temperature sensor (56) and said charging circuit (30) and operable to control (refer to column 2, lines 11-17) said charging circuit (30) in accordance with said temperature, said controller (36) being operable to minimize said charging current when said temperature is higher than a second predetermined threshold value; (refer to Figure 4, column 10, claims 3 and 10) and a memory (39) Sakakibara disclose to figure 4, an apparatus for charging a battery comprising a charging circuit (30) for providing a charging current to the battery (B); coupled to said controller (36), said memory having a temperature and charging current look up table stored therein, whereby said controller accesses said look up table

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to set said charging current (see column 5, lines 19-31) where the current is determined base on the battery temperature this teaching.

**Claims 2 and 19**

As to claims 2 and 19, Sakakibara disclose in column 4, lines 63-66, said controller continuously sets said charging current in accordance with said temperature.

**Claims 3 and 20**

As to claims 3 and 20, Sakakibara disclose in column 4, lines 63-66, said controller periodically sets said charging current in accordance with said temperature.

**Claims 5 and 22**

As to claims 5 and 22, Sakakibara disclose in column 5, line 18-31, said controller is operable to set said charging current to a maximum value when said temperature is lower than a first predetermined threshold value.

**Claim 8**

As to claim 8, Sakakibara disclose to figure 3 & 4, paragraph bridging column 3 and 4, the battery (50) is coupled to a load (70), and wherein said temperature sensor (56) senses that temperature of the battery (50) and the load (70).

**Claim 23**

As to claim 23, Sakakibrara disclose in column 5, lines 18-31 said maximum value is the battery's maximum specified charging current, and said first predetermined threshold is the battery's maximum charging temperature.

**Claim 25**

As to claim 25, Sakakibrara disclose in figure 3 & 4, column 4, lines 27-52, the battery is coupled to a load (76), and wherein said sensing step includes sensing the temperature of the battery (50) and the load (76).

**Claim 39**

As to claim 39, Sakakibara disclose to figure 4, an apparatus for charging a battery comprising a charging circuit (30) for providing a charging current to the battery (B); a temperature sensor (56) positioned to sense a temperature of said battery (B) and said load; and a controller (36) coupled to said temperature sensor (56) and said charging circuit (30) and operable to control (refer to column 2, lines 11-17) said charging circuit (30) in accordance with said temperature, said controller (36) being operable to minimize said charging current when said temperature is higher than a second predetermined threshold value; (refer to Figure 4, column 5, lines 8-13).

**Claim 42**

As to claim 42, Sakakibara disclose to figure 4, column 5, lines 8-13, sensing a temperature related to the battery temperature and the load temperature; setting a charging current in accordance with said sensed temperature and minimizing said charging current when said temperature is higher than a second predetermined threshold value; and charging the battery at said charging current.

**Allowable Subject Matter**

3. **Claims 6, 9-11,14,15,17, 26-28,30,31,33, 40, 41 and 43** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in

independent from including all of the limitations of the base claim and any intervening claims.

**Claim 6**

The primary reasons for allowance of **claim 6** in the instant application is the combination with the inclusion in these claims that **said maximum value is the battery's maximum specified charging current, and said first predetermined threshold value is the battery's maximum charging temperature.** The prior art of record neither anticipates nor renders obvious the above recited combination.

**Claim 9**

The primary reasons for allowance of **claim 9** in the instant application is the combination with the inclusion in these claims that **a memory coupled to said controller having a look up table with temperature versus discharging current and values of said variable impedance load stored therein, whereby said controller accesses said look up table to set said discharging current.** The prior art of record neither anticipates nor renders obvious the above recited combination.

**Claims 10, 11, 14, 15 and 17** depends from claim 9 and therefore is allowable for at least the same reasons noted above with respect to claim 9.

**Claim 26**

The primary reasons for allowance of **claim 26** in the instant application is the combination with the inclusion in these claims that **setting a discharging current in accordance with said temperature by recalling a discharging current corresponding to said sensed temperature from a look up table; discharging the**

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**battery at said discharging current with ; discharging circuit having a variable impedance load, the impedance of said load being selected from said**

**look up table.** The prior art of record neither anticipates nor renders obvious the above recited combination.

**Claims 27,28,30,31 and 33** depends from claim 26 and therefore is allowable for at least the same reasons noted above with respect to claim 9.

**Claim 40**

The primary reasons for allowance of **claim 40** in the instant application is the combination with the inclusion in these claims that a discharging circuit having **a variable impedance load and a discharging current input coupled to the battery; and a controller coupled to said temperature sensor, said charging circuit, and said discharging circuit, said controller being operable to minimize said charging current and said discharging current in accordance with said temperature and to vary the impedance of said load.** The prior art of record neither anticipates nor renders obvious the above recited combination.

**Claim 41**

The primary reasons for allowance of **claim 41** in the instant application is the combination with the inclusion in these claims that a discharging circuit having **a controller coupled to said temperature sensor, said charging circuit, and said discharging circuit, said controller being operable to minimize said charging current and said discharging current in accordance with said temperature and to**

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**vary the impedance of said load.** The prior art of record neither anticipates nor renders obvious the above recited combination.

**Claim 43**

The primary reasons for allowance of **claim 43** in the instant application is the combination with the inclusion in these claims that a discharging circuit having **discontinuing said discharging step when a predetermined battery voltage is reached; setting a charging current in accordance with said temperature, said setting step further including the step of minimizing said discharging current when said temperature is higher than a second predetermined threshold value; and charging the battery at said charging current.** The prior art of record neither anticipates nor renders obvious the above recited combination.

**: IMPORTANT NOTE :**

If the applicant should choose to rewrite the independent claims to include the limitation recited in claims 6, the applicant is encouraged to amend the **title of the invention** such that it is descriptive of the invention as claimed as required by sec. **606.01** of the **MPEP**. Furthermore, the **Summary of the Invention** and the **Abstract** should be amended to bring them into harmony with the allowed claims as required by paragraph 2 of **§ 1302.01** of the **MPEP**.

As allowable subject matter has been indicated, applicant's response must either comply with all formal requirements or specifically traverse each requirement not complied with. See **37 C. F. R. § 1.111(b)** and **§ 707.07 (a)** of the **M.P.E.P.**



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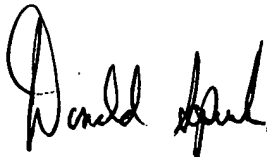
***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence W Luk whose telephone number is (571)272-2080. The examiner can normally be reached on 7 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald A Sparks can be reached on (571)272-4201. The fax phone number for the organization where this application or proceeding are (703)746-7239, (571)272-2100 for regular communication and (703)746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to receptionist whose telephone number is (571)272-2100.

LWL  
March 15, 2005

  
**DONALD SPARKS**  
**SUPERVISORY PATENT EXAMINER**